Allen-Bradley

ControlFLASH™ Firmware Upgrade Kit

User Manual

Important User Information

Because of the variety of uses for the products described in this publication, those responsible for the application and use of this control equipment must satisfy themselves that all necessary steps have been taken to assure that each application and use meets all performance and safety requirements, including any applicable laws, regulations, codes and standards.

The illustrations, charts, sample programs and layout examples shown in this guide are intended solely for purposes of example. Since there are many variables and requirements associated with any particular installation, Allen-Bradley does not assume responsibility or liability (to include intellectual property liability) for actual use based upon the examples shown in this publication.

Allen-Bradley publication SGI-1.1, *Safety Guidelines for the Application, Installation, and Maintenance of Solid-State Control* (available from your local Allen-Bradley office), describes some important differences between solid-state equipment and electromechanical devices that should be taken into consideration when applying products such as those described in this publication.

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Throughout this manual we use notes to make you aware of safety considerations:

ATTENTION: Identifies information about practices or circumstances that can lead to personal injury or death, property damage or economic loss.

Attention statements help you to:

- identify a hazard
- avoid the hazard
- recognize the consequences

Important: Identifies information that is critical for successful application and understanding of the product.

ContolFLASH is a trademark of Rockwell Automation.
RSLinx is a trademark of Rockwell Software, Inc..
Windows 95 and NT are trademarks of Microsoft.

Summary of Changes

The information below summarizes the changes we made to the ControlFLASH Firmware Upgrade Kit User Manual, publication 1756-6.5.6. Changes are indicated by a revision bar in the margin.

for this new information	see chapter
re-organized quick start procedure	1
re-organized installation procedure	3

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Quick Start for Experienced Users

What's in This Chapter?

This chapter can help you to get started using the ControlFLASH Firmware Upgrade Kit with your application. Because it is a start-up guide, this chapter *does not* contain detailed explanations about the procedures listed. We provide references to other chapters in this book where you can get more information.

This chapter:

- tells you what to do before you begin
- briefly explains each task
- tells you where to go for more information

▶ If you have any questions or are unfamiliar with the terms used or concepts presented in the procedural steps, *always read the referenced chapters* and other recommended documentation before trying to apply the information.

Using RSLinx™ Lite Software

Your ControlFLASH Firmware Upgrade Kit package may have included Rockwell Software's RSLinx Lite. RSLinx Lite is a communication software package that you can use with a wide variety of Rockwell Software and Rockwell Automation/Allen-Bradley applications. ControlFLASH uses RSLinx Lite to communicate over Data Highway Plus™, ControlNet™, DF1, and Ethernet™ networks.

To install and use RSLinx Lite, refer to the documentation (printed or on-line) that came with your RSLinx Lite package.

▶ If RSLinx Lite is already installed on your personal computer, you may not need to install it now.

Before You Begin Using the ControlFLASH Firmware Upgrade Kit

Before you can start using the ControlFLASH Firmware Upgrade Kit, you will need to do these things:

do this	refer to
install and configure your communication interface card	the documents that came with your hardware
ensure your communication interface card operates correctly	

do this	refer to
install RSLinx Lite software	• the documents that came with RSLinx Lite software, or • the RSLinx Lite on-line help
configure RSLinx Lite software	
use RSLinx Lite SuperWho to locate your target device on the network	
install the ControlFLASH Firmware Upgrade Kit	Chapter 3 of this manual

Using ControlFLASH to Update Firmware

To update the devices, run the ControlFLASH tool. See Chapter 4 for more information.

1. Run the ControlFLASH tool from your personal computer.
2. When you see the Welcome screen, click **Next**. You see the Catalog Number screen.
3. Select the catalog number of the device you are updating.
4. ControlFLASH accesses the SuperWho screen. Double-click on the device to select it.
5. Click **Next**. You see the Firmware Revision screen.
6. Once you have selected the correct revision for this update, click **Next**. You see the Summary screen.

ATTENTION: Be sure that this update is the correct one to make for your device. If it is not, unpredictable system operation could result. Contact your technical support specialist for more information.

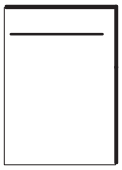
7. If you agree with all the information shown on the Summary screen, click **Finish**. To view more information about the selected device, click **More Info**.
8. Once you click **Finish**, you see the Progress screen.
9. When the update completes successfully, you see the Update Status screen.
   - for more information, click **View Log** to see a history of programming events
   - if the update **DOES NOT** complete successfully, check the on-line help or Appendix A of this manual for more information about errors
10. The update is now complete. Test operation of the device you updated before using it in its intended application.

Understanding the Tasks You Will Perform

This table shows you where to find information on how to use the ControlFLASH Firmware Upgrade Kit.

for information about	see this chapter
getting started with the ControlFLASH Firmware Upgrade Kit	**Chapter 1** Quick Start for New Users
learning about the ControlFLASH Firmware Upgrade Kit	**Chapter 2** Introducing the ControlFLASH Firmware Upgrade Kit
installing and un-installing the ControlFLASH Firmware Upgrade Kit	**Chapter 3** Installing the ControlFLASH Firmware Upgrade Kit
updating firmware with the ControlFLASH Firmware Upgrade Kit	**Chapter 4** Using ControlFLASH to Update Firmware
troubleshooting error messages	**Appendix A** Understanding Error Messages

What's Next?



In Chapter 2, we introduce you to the ControlFLASH Firmware Upgrade Kit.

Notes:

Introducing The ControlFLASH Firmware Upgrade Kit

What's in This Chapter?

This chapter describes the ControlFLASH Firmware Upgrade Kit.

This chapter:

- describes the ControlFLASH programming tool
- describes the parts of the kit
- describes system requirements

What is ControlFLASH?

ControlFLASH is a programming software tool that lets users electronically update firmware on printed circuit boards. The tool takes advantage of the growing use of flash memory (electrically erasable chips) across industrial control products.

What is the ControlFLASH Firmware Upgrade Kit?

The ControlFLASH Firmware Upgrade Kit includes:

- the firmware upgrade to be downloaded
- the ControlFLASH programming tool, along with its support drivers and on-line help
- RSLinx Lite software
- this manual

ControlFLASH supports a wide variety of products and protocols. For information on the specific products and protocols the tool can support, consult your technical support specialist.

What are the System Requirements?

To use the ControlFLASH Firmware Upgrade Kit, your system must be at this minimum configuration:

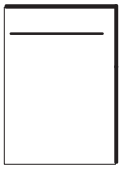
- personal computer with at least a 486 processor
- Windows NT™ 3.51, 4.0 or 95
- at least 16 Mbytes memory

Getting Around in ControlFLASH Software

The ControlFLASH user interface allows you to move through the software and make selections by using your mouse to click on navigational buttons.

to	click this button
go forward one screen at a time	Next >
go back one screen at a time	< Back
cancel an operation	Cancel
view a display of all the programming steps ControlFLASH has just executed	View Log...
get more information about an operation or function	Get Info or More Info...
get help on using ControlFLASH (see Chapter 4 for more information)	Help

What's Next?



In Chapter 3, we tell you how to install the ControlFLASH Firmware Upgrade Kit on your personal computer.

Installing the ControlFLASH Firmware Upgrade Kit

What's in This Chapter?

This chapter tells you how to install the ControlFLASH Firmware Upgrade Kit. You will install two software packages.

this disk	contains these files
ControlFLASH Firmware Upgrade Kit diskette(s)	•the firmware to update your devices •ControlFLASH executable file •ControlFLASH drivers •ControlFLASH on-line help
RSLinx Lite diskette(s)	RSLinx Lite software

Installing the ControlFLASH Firmware Upgrade Kit

Follow these steps to install the ControlFLASH Firmware Upgrade Kit.

✓ Install RSLinx Lite Software

You will need to install Rockwell Software's RSLinx Lite to select and communicate with your devices. To install and use RSLinx Lite, refer to the documentation (printed or on-line) that came with your RSLinx Lite package.

▶ If RSLinx Lite is already installed on your personal computer, you may not need to install it now.

✓ Install ControlFLASH Software

Windows NT 3.51	Windows NT 4.0 or 95
1. Place the ControlFLASH firmware Upgrade Kit disk in your floppy disk drive. **2.** Select **File...Run**. **3.** When the dialog box appears, type `a:\setup\exe` where a: is your floppy disk drive designation. **4.** Click **Run**. You see the Setup Wizard, which guides you through the installation process.	**1.** Place the ControlFLASH firmware Upgrade Kit disk in your floppy disk drive. **2.** Click **Browse** to select the `a:\setup\exe` file where a: is your floppy disk drive designation. **3.** Click **OK**. You see the Setup Wizard, which guides you through the installation process.

Un-installing the ControlFLASH Firmware Upgrade Kit

When you are finished with the update, you may want to un-install the ControlFLASH Firmware Upgrade Kit to save your hard disk space.

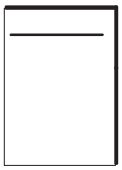
If you do not un-install it, each new ControlFLASH firmware upgrade installs the most current version of the tool on top of the older version.

Important: Do not un-install the ControlFLASH Firmware Upgrade Kit until you have completed the firmware update.

To un-install ControlFLASH, follow these steps:

Windows NT 3.51	Windows NT 4.0 or 95
1. From the desktop, select the ControlFLASH program group icon by double-clicking your mouse. **2.** When the program opens, double-click on the UnInstall ControlFLASH icon. ControlFLASH un-installs itself. **3.** Remove any ControlFLASH files you may have created.	**1.** From the Start menu, select the ControlFLASH program group. **2.** Click on the UnInstall ControlFLASH icon. ControlFLASH un-installs itself. **3.** Remove any ControlFLASH shortcuts or files you may have created.

What's Next?



In Chapter 4, we show you how to run the ControlFLASH tool.

Using ControlFLASH to Update Firmware

What's in This Chapter?

This chapter describes how to update firmware with the ControlFLASH tool.

This chapter:

- tells you what to do before you begin
- shows you how to run the ControlFLASH software
- tells you how to use on-line help

Important: The illustrations of ControlFLASH screens shown in this manual are samples. Because your system configuration is unique, the screens you see when running the tool may be different from the ones you see here.

Before You Begin

Before you begin, make sure that you have:

- obtained the correct Firmware Upgrade Kit for the device you want to update
- prepared your network for updating
- prepared your device for updating

If you need help with any of these items, contact your technical support specialist for more information.

Preparing the Network for Updating

Follow this procedure to prepare the network for updating.

ATTENTION: You cannot perform this update while running a process. Before performing the update, choose an appropriate time to remove your device from service.

1. Choose an appropriate time after all processes can be stopped to remove the device from service.
2. Shut down the production line.
3. Ensure that all network devices are properly connected.

Preparing the Device for Updating

Follow this procedure to prepare the device for updating.

ATTENTION: Back up to disk any current programs stored in RAM on devices you are updating. The ControlFLASH tool may update your device RAM, overwriting any stored data.

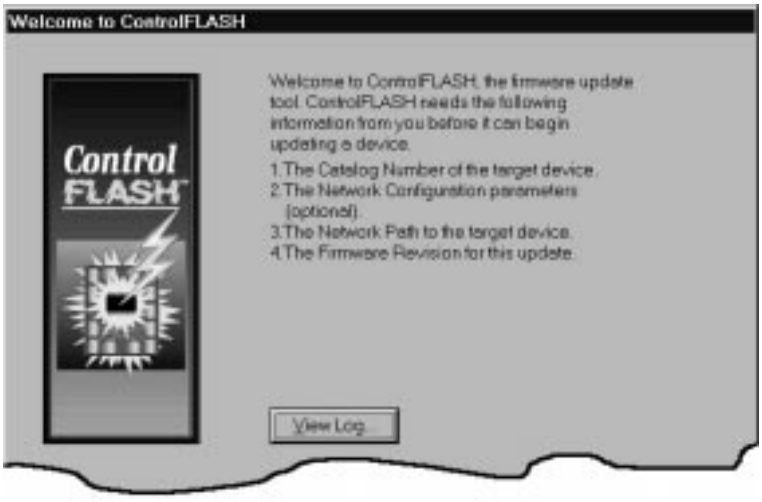
1. Back up to disk any current programs stored in RAM on devices you are updating.
2. Turn the keyswitch on your processor (if used) to program mode.
3. Turn on power to the processor.

Updating the Device

Follow these steps to use the ControlFLASH tool to update your devices.

1. Run the ControlFLASH tool from your personal computer by:
   - double-clicking on the ControlFLASH icon on your desktop or program group (created during installation), or
   - selecting **ControlFLASH** from the **Start...Programs** taskbar

You see this screen:


Welcome to ControlFLASH
Control FLASH
Welcome to ControlFLASH, the firmware update tool. ControlFLASH needs the following information from you before it can begin updating a device.
1.The Catalog Number of the target device.
2.The Network Configuration parameters (optional).
3.The Network Path to the target device.
4.The Firmware Revision for this update.
View Log

2. Click Next >. You see the Catalog Number screen.

3. Use the edit box to enter the catalog number of the device you are updating. Or select the catalog number from the list.

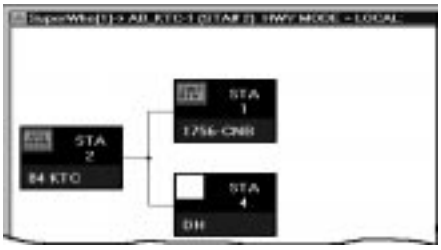
   If you do not find the catalog number of the device you want to update in this list, the device has not been installed. Contact your technical support representative for more information.

4. Click Next >. You see the SuperWho Driver Selection screen.

5. Move the highlight to the appropriate driver to select it.

   If you do not find the correct driver in this list, SuperWho has not been properly configured. Refer to the documentation (printed or on-line) that came with your RSLinx Lite package.

6. Click OK. ControlFLASH accesses the SuperWho Device Selection screen. Double-click on the device to select it.



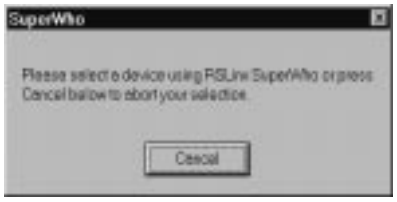
For more information on using SuperWho, refer to the documentation (printed or on-line) that came with your RSLinx Lite package.

How Do I Exit from SuperWho?
If you are unsure about continuing the update at this point, you may want to exit from SuperWho and return to the ControlFLASH Catalog Number screen. To exit from SuperWho:

On the Super Who screen, click ☒ .
You return to the ControlFLASH Catalog Number screen.

OR

1. On the SuperWho screen, click <alt><tab> (or use the taskbar in Windows NT 4.0 or 95) on your PC keyboard. You see this screen:



2. Click Cancel or ☒. You return to the ControlFLASH Catalog Number screen.

What are Restrictions?
Restrictions on a firmware update mean that you can perform the update under certain conditions. These conditions are:

LER	limited execution (the update may be used only for a limited number of times)
LDR	limited day (the update may be used only for a limited number of days)
EDR	expiration date (the update will expire on a certain calendar day)

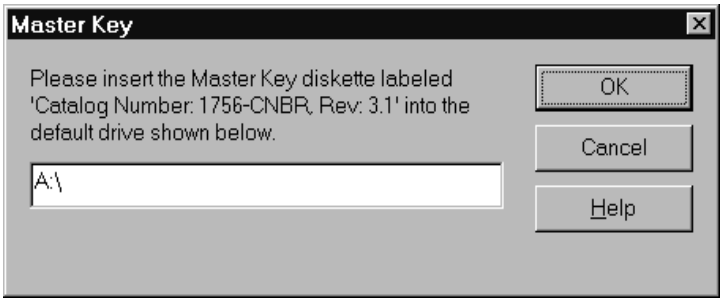
7. Click Next >. You see the Firmware Revision screen.

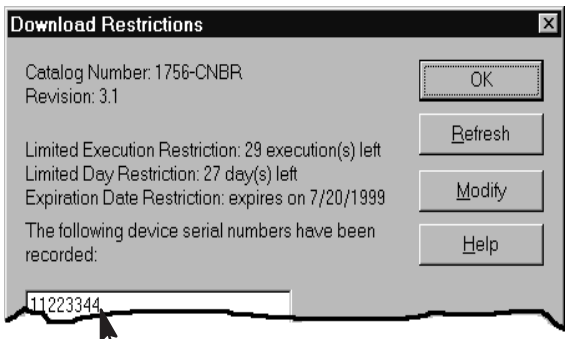
This screen shows revision information, plus the download restrictions for this firmware update (if set for a particular revision).

8. To view all possible firmware revisions, press Show All.

You may want to modify the restrictions that have been placed on your copy of the ControlFLASH tool. We show you how on page 4–6.

9. To view download restriction information, click Restrictions... . The system prompts you to enter the Master Key diskette:


Master Key
Please insert the Master Key diskette labeled 'Catalog Number: 1756-CNBR, Rev: 3.1' into the default drive shown below.
A:\
OK
Cancel
Help



The list box shows serial numbers of devices previously updated with this firmware revision. These devices can be updated again without affecting download counters.

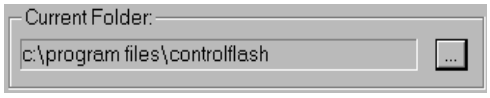
10. Enter the Master Key diskette and click OK .You see the Download Restrictions screen.

When you click Refresh , ControlFLASH reads the Master Key and updates information on the screen.

11. To return to the Firmware Revision screen and finish the update, click OK .

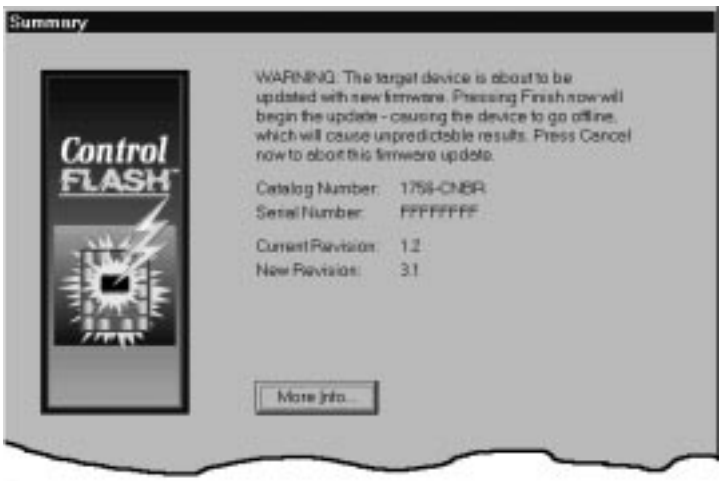
12. From the Firmware Revision screen, select the firmware revision of the device to be updated.

13. If you have installed firmware in a directory other than the default when you installed ControlFLASH, you can browse for the correct folder. To select a different folder, click:



14. Select the desired folder, then click OK . You return to the Firmware Revision screen.

15. Click Next > . You see the Summary screen:


Summary
Control FLASH
WARNING: The target device is about to be updated with new firmware. Pressing Finish now will begin the update - causing the device to go offline, which will cause unpredictable results. Press Cancel now to abort this firmware update.
Catalog Number: 1756-CNBR
Serial Number: FFFFFFFF
Current Revision: 1.2
New Revision: 3.1
More Info...

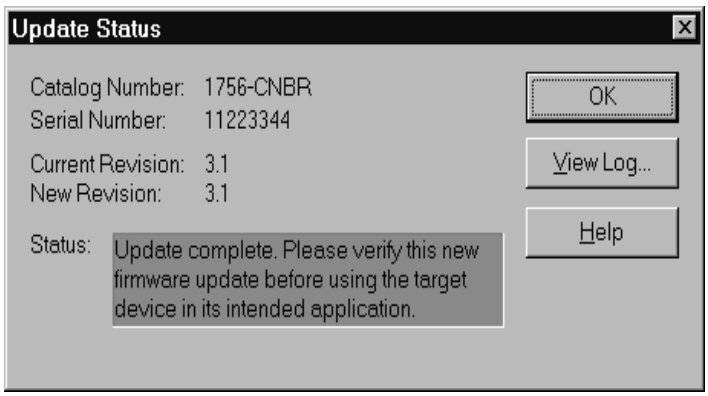
ATTENTION: Be sure that this update is the correct one to make for your device. If it is not, unpredictable system operation could result. Contact your technical support specialist for more information.

16. If you agree with all the information shown on the Summary screen, click Finish.

- to cancel the update, click Cancel
- to view more information about the selected device, click More Info...

17. Once you click Finish, you see the Progress screen.

18. When the update completes successfully, you see this screen:



- for more information, click View Log... to see a history of programming events
- if the update **DOES NOT** complete successfully, check the on-line help or Appendix A of this manual for more information about errors

19. Click OK. The update is now complete. Test operation of the device you updated before using it in its intended application.

Modifying Download Restrictions

If download restrictions are preventing you from completing the desired device update, you may want to modify restrictions. Follow this procedure to modify restrictions.

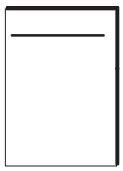
1. From the Download Restrictions screen, click Modify. The software takes you to a DOS utility located on your master key diskettes in which you will need to enter a reset code.
2. Contact your technical support representative to obtain the reset code.

Using On-line Help

You can access two types of on-line help while running ControlFLASH.

for this information	use this help
instructions for using ControlFLASH	Access help from the System menu
descriptions of ControlFLASH dialog boxes	Access help from the button that appears on each ControlFLASH screen.
additional information about error messages	Press [F1] on your keyboard while ControlFLASH software displays the error message.

What's Next?



In Appendix A, we list common error messages and their suggested corrections.

Notes:

Understanding Error Messages

What's in This Appendix?

This appendix describes common error messages you may see when running ControlFLASH.

this message	means	so you should
Log Viewer Error	The event log viewer (`Notepad.exe`) could not be found.	Ensure that Notepad has been installed on your system.
Catalog Registry Error	The catalog registry database could not be read.	Check with your technical support representative to ensure that the correct database has been loaded.
Load Driver Error	ControlFLASH could not find an essential support file for the selected catalog number.	Check with your technical support representative to ensure that the correct drivers have been loaded.
Invalid Catalog Number	The catalog number of the target device you selected does not match the catalog number selected in the Catalog Number dialog box. You selected either an incorrect target device or catalog number.	Select: • a device that matches the catalog number, or • a different catalog number
Catalog Directory Error	The catalog directory database could not be read.	Check with your technical support representative to ensure that the correct catalog database has been loaded.
Invalid Revision	The update revision selected is not compatible with the selected target device. The selected firmware revision is either: • older than the firmware currently on the target device, or • incompatible with the revision level of the target device	 **ATTENTION:** Do not continue with the update until you have verified that the update is compatible with the selected device. Unpredictable system operation could result.
Instance Validation Error	The target device did not report enough information to be properly identified.	Check with your technical support representative for help in resolving this problem.
Script File Error	The script file associated with the selected update is corrupt.	Check with your technical support representative to obtain a new script file.
Data File Error	The data file used in programming could not be read.	Check with your technical support representative to obtain a new data file.
Out of Memory Error	Your system is low on or out of RAM memory. ControlFLASH could not allocate enough memory for data.	Free up RAM space by: • shutting down other applications currently running • increasing the size of your virtual memory • purchasing additional RAM, if necessary
Log File Error	The log file could not be accessed because of a file error. Either the log file: • could not be opened, or • could not be written to because of an error, or because the disk is full	 **ATTENTION:** Check with your application engineer or supervisor before deleting any files. Ensure that you are not deleting any files necessary for system operation. If the disk is full, you can free up disk space by: • deleting files from your `c:\windows\temp` directory • un-installing any unnecessary applications • shutting down and re-starting your computer

this message	means	so you should
Authenticate Error	The download restrictions placed on the selected revision could not be validated. Files containing validation information are either corrupted, or have been deleted.	Check with your technical support representative for help in restoring your restriction files.
Restriction System Error	The download restriction system could not read the master key diskette.	Check with your technical support representative for help in resolving this problem.
RSLinx Load Error	An error occurred while ControlFLASH tried to install the network protocol driver (DTL32.DLL).	Ensure that RSLinx is properly installed and configured.
Communication Error	An error occurred while ControlFLASH tried to communicate with the target device.	Ensure that: • all cable connections are secure • the target device has power • RSLinx is properly configured
Mode Error	The target device is in a mode in which it cannot be programmed.	Place the device into the appropriate mode.

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Allen-Bradley
Publication Problem Report

If you find a problem with our documentation, please complete and return this form.

Pub. Name ControlFLASH Firmware Upgrade Kit User Manual

Cat. No. N/A Pub. No. 1756-6.5.6 Pub. Date January 1998 Part No. 955131-35

Check Problem(s) Type:	Describe Problem(s):	Internal Use Only
☐ Technical Accuracy	☐ text ☐ illustration	
☐ Completeness What information is missing?	☐ procedure/step ☐ illustration ☐ definition ☐ example ☐ guideline ☐ feature ☐ explanation ☐ other	☐ info in manual (accessibility) ☐ info not in manual
☐ Clarity What is unclear?		
☐ Sequence What is not in the right order?		
☐ Other Comments Use back for more comments.		

Your Name _____ Location/Phone _____

Return to: Marketing Communications, Allen-Bradley Co., 1 Allen-Bradley Drive, Mayfield Hts., OH 44124-6118 Phone: (216)646-3176
FAX: (216)646-4320

Publication ICCG-5.21-August 1995 PN 955107-82

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